

# Work Order ID 85462

**\*85462\***

Page 1

June-08-12 10:03:11 AM

Item ID: D3065-5

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: Step Leg

Start Date: 08/06/2012 Start Qty: 80.00

**\*80\***

Cust Item ID:

Required Date: 22/06/2012 Req'd Qty: 80.00

**\*80\***

Customer:

Reference:

Approvals:

Process Plan: MLJ

Date: 12/06/08

Tooling:

Date:

Run Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
<b>Draw Nbr</b>	<b>Revision Nbr</b>								
D3065	Rev B					<u>80</u>			
100		0.00							
<b>*100*</b>	FLOW WATER JET								
Waterjet		0.00							
FLOW CNC Waterjet	Memo								
6061 .080	1-Cut as per Dwg D Dwg Rev: <u>B</u> Prog Rev: <u>B</u> 2-Deburr if necessary								<u>FB12-6-17</u>
110		0.00							
<b>*110*</b>	QC2- Inspect parts off machine FAI/FAIB								
QC		0.00							
Quality Control	Memo								<u>FB12-6-17</u>
120		0.00							
<b>*120*</b>	QC8- Inspect parts - second check								
QC		0.00							
Quality Control	Memo					<u>80</u>			<u>W 12 06 21</u>

# Work Order ID 85462

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Page 2

June-08-12 10:03:11 AM

Item ID: D3065-5

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Step Leg

Start Date: 08/06/2012 Start Qty: 80.00

**\*80\***

Cust Item ID:

Required Date: 22/06/2012 Req'd Qty: 80.00

**\*80\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

Chemical Conversion Coat per QSI005 4.1

0.00

**\*130\***

HandFinish

Memo

0.00

Hand Finishing

80 76 126-26

140

QC3- Inspect Part Finish

0.00

**\*140\***

QC

Memo

0.00

Quality Control

80 9/12/11

150

Identify as per dwg & Stock Location: C-A

0.00

**\*150\***

Packaging

Memo

0.00

Packaging

80 9/12/11

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%; border: none;"> <tr> <td style="width:25%;">Skid-tube <input type="checkbox"/></td> <td style="width:25%;">Crosstube <input type="checkbox"/></td> <td style="width:25%;">Prod. Eng. Coord. <input type="checkbox"/></td> <td style="width:25%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Supplier <input type="checkbox"/>		Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Other <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Supplier <input type="checkbox"/>																
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Other <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Offset/Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unauthorized <input type="checkbox"/>									

**FAULT CATEGORY**

Landing Gear	Hardware	General	Maintenance	Set-up
<input type="checkbox"/> Bending Passes Below Min	<input type="checkbox"/> Breaking	<input type="checkbox"/> Burrs	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Supplier
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> Missing	<input type="checkbox"/> Contamination	<input type="checkbox"/> Off-Set	<input type="checkbox"/> Temperature/Cure
<input type="checkbox"/> Cracks	<input type="checkbox"/> Size/Length	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Orientation Misread	<input type="checkbox"/> Weld
<input type="checkbox"/> Crushed/Crimp at Bending	<input type="checkbox"/> Spinning	<input type="checkbox"/> Documentation/Data	<input type="checkbox"/> Out of Calibration	<input type="checkbox"/> Wrong Stock Pulled
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Threading	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence	
<input type="checkbox"/> Other	<input type="checkbox"/> Wrong	<input type="checkbox"/> Inspection Incomplete	<input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Other
<input type="checkbox"/> Positioned Wrong		<input type="checkbox"/> Inspection Unqualified	<input type="checkbox"/> Over/Under tolerance	
<input type="checkbox"/> Ripples on Inner Bend	<b>Drill Holes</b>	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Lost	
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Misaligned	<input type="checkbox"/> Jigs/Fixtures/Tooling	<input type="checkbox"/> Part Moved	
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Ovalized	<input type="checkbox"/> Kit Incorrect	<input type="checkbox"/> Raw Material	
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Over/Undersized	<input type="checkbox"/> Kit Missing		
	<input type="checkbox"/> Too Many			

# Work Order ID 85462

**\*85462\***

Page 3

June-08-12 10:03:11 AM

Item ID: D3065-5

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Step Leg

Stop **\*NS2\***

Start Date: 08/06/2012 Start Qty: 80.00

**\*80\***

Cust Item ID:

Required Date: 22/06/2012 Req'd Qty: 80.00

**\*80\***

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160

QC21- Final Inspection - Work Order Release

0.00

**\*160\***

QC

Memo

0.00

Quality Control

12/17/20

mk  
12-07-19

# Picklist Print

June-08-12 10:03:15 AM

Page 1

Work Order ID: 85462

\*85462\*

Parent Item: D3065-5

\*D3065-5\*

Parent Item Name: Step Leg

Start Date: 08/06/2012

Required Date: 22/06/2012

Start Qty: 80.00

Required Qty: 80.00

## Comments:

IPP: C02.11.01Incorporated D3066-1 IPPKJ/RF

IPP Rev:D Now on Water Jet 06-04-11 JLM

IPP Rev:E Now manufactured with 6061-T6 06-05-25 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6S.080		Purchased			No			100	sf	344.4943	0.825	69.47368	

\*M6061T6S 080\*

6061-T6 .080 Sheet

\*\*

20  
B12-6-17

Location	Loc Qty	Loc Code
MAT021	344.494316	
117285	0.124316	
119766	39.6	
120096	291.07	
121193	13.7	
<del>120096</del>		

~~120096~~  
~~120096~~  
~~120096~~

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td style="width: 25%;">Skid-tube <input type="checkbox"/></td> <td style="width: 25%;">Crosstube <input type="checkbox"/></td> <td style="width: 25%;">Prod. Eng. Coord. <input type="checkbox"/></td> <td style="width: 25%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Supplier <input type="checkbox"/>	<input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Other <input type="checkbox"/>	<input type="checkbox"/>
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Supplier <input type="checkbox"/>	<input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Other <input type="checkbox"/>	<input type="checkbox"/>															

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Offset/Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unauthorized <input type="checkbox"/>									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending Passes Below Min <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimp at Bending <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Other <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Ripples on Inner Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>Hardware</b> <input type="checkbox"/> Breaking <input type="checkbox"/> Missing <input type="checkbox"/> Size/Length <input type="checkbox"/> Spinning <input type="checkbox"/> Threading <input type="checkbox"/> Wrong  <b>Drill Holes</b> <input type="checkbox"/> Misaligned <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Undersized <input type="checkbox"/> Too Many	<b>General</b> <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Documentation/Data <input type="checkbox"/> Finish <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Inspection Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Jigs/Fixtures/Tooling <input type="checkbox"/> Kit Incorrect <input type="checkbox"/> Kit Missing	<input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Off-Set <input type="checkbox"/> Orientation Misread <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Lost <input type="checkbox"/> Part Moved <input type="checkbox"/> Raw Material  <input type="checkbox"/> Set-up <input type="checkbox"/> Supplier <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other _____ _____ _____
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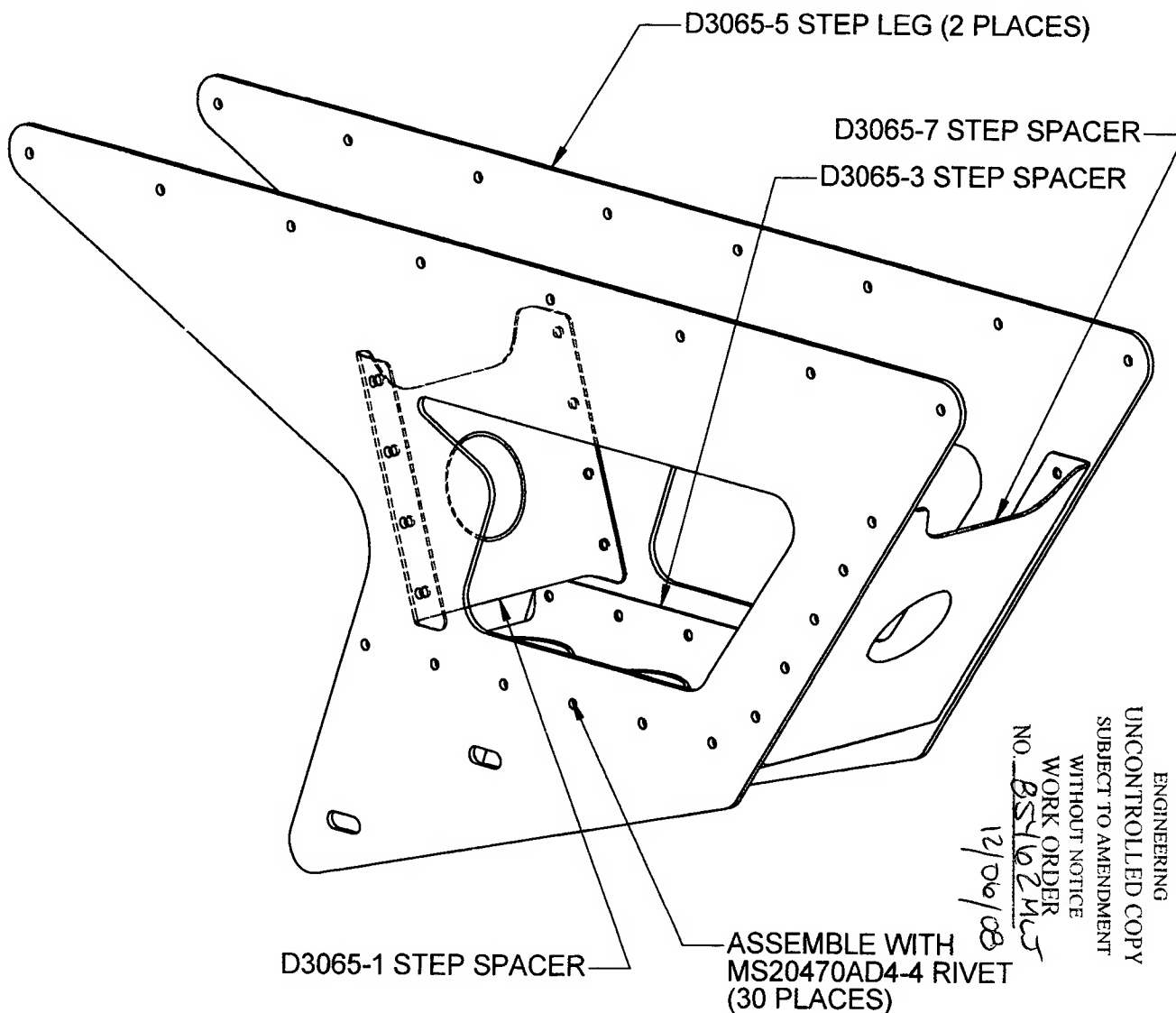




DESIGN <i>CP</i>	DRAWN BY <i>C.B.</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3065	REV. B SHEET 1 OF 5
DATE 06.05.23		TITLE STEP LEG ASSEMBLY SCALE 1:2	
A	02.09.11	NEW ISSUE	
B	06.05.23	ADD 6061-T6 MATERIAL, ADD SLOTS TO D3065-5	

RELEASED

*06.06.20* *[Signature]*



## D3065-041 STEP LEG ASSEMBLY

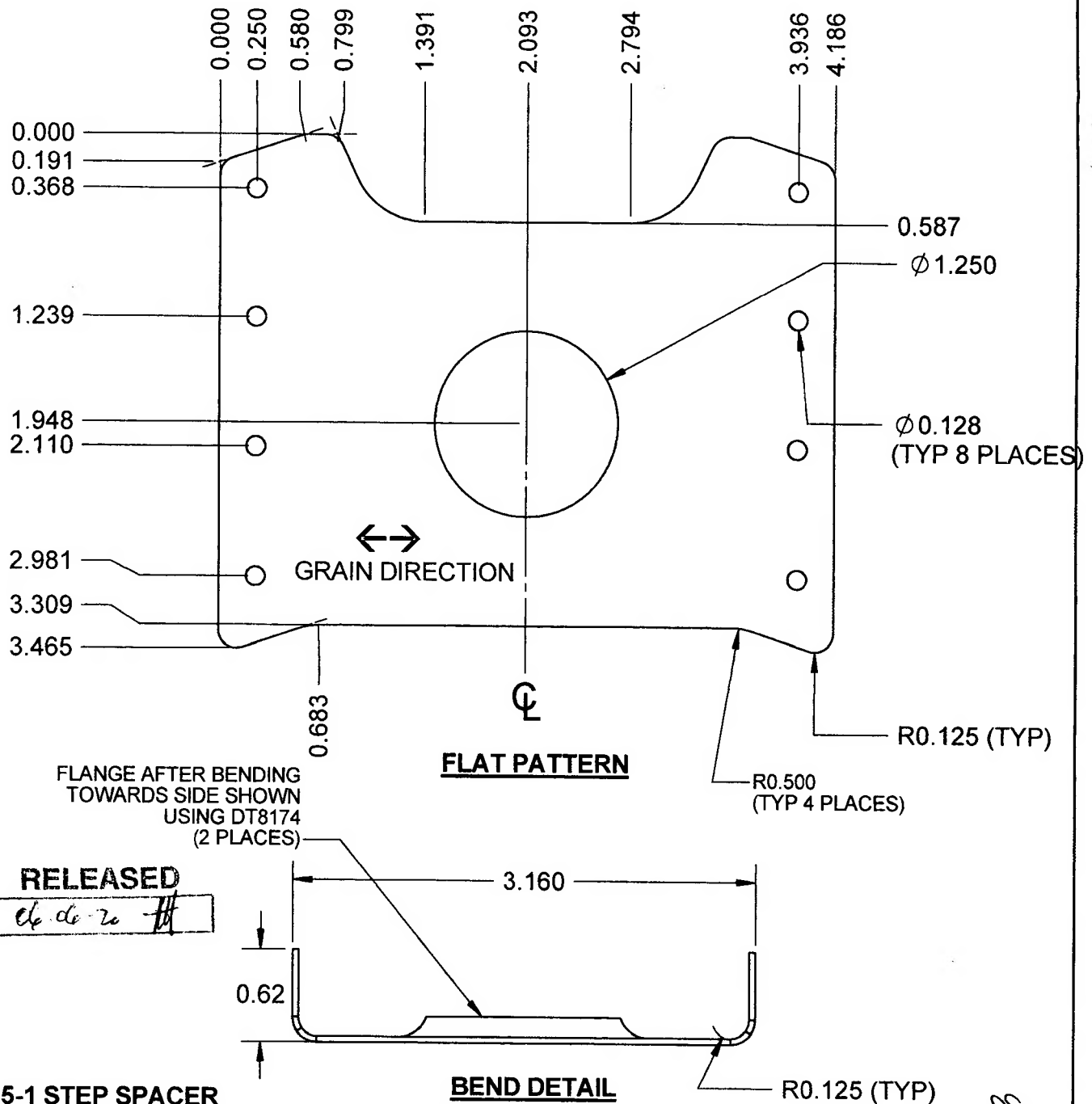
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CHECKED <i>PH</i>	APPROVED <i>#</i>	DRAWING NO. <b>D3065</b>	REV. B SHEET 2 OF 5
DATE <b>06.05.23</b>		TITLE <b>STEP LEG ASSEMBLY</b>	SCALE 1:1



### D3065-1 STEP SPACER

- 1) MATERIAL: 2024-T3 (QQ-A-250/4) 0.040 THICK (REF DART SPEC. M2024T3S.040)
- 2) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 3) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

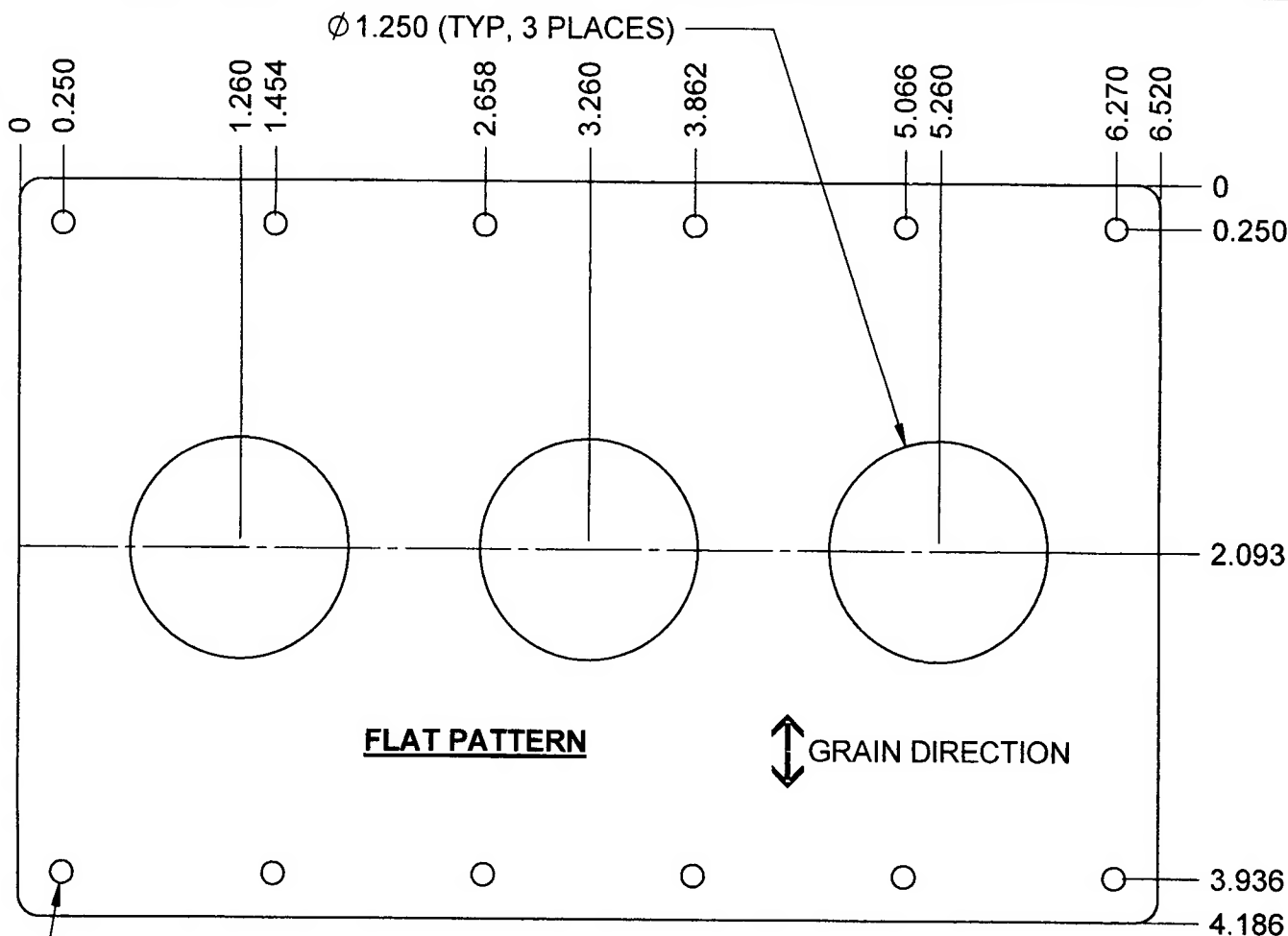
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*85462*



DESIGN <i>CP</i>	DRAWN BY <i>CB</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. <b>D3065</b>	REV. B SHEET 3 OF 5
DATE <b>06.05.23</b>	TITLE <b>STEP LEG ASSEMBLY</b>		SCALE 1:1

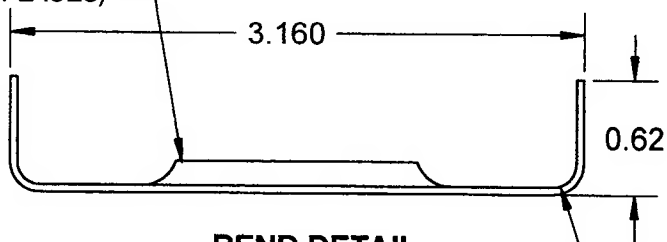


FLANGE AFTER TOWARDS SIDE  
SHOWN USING DT8174 (3 PLACES)

Ø 0.129 (TYP, 12 PLACES)

**RELEASED**

*06 06 20* *[Signature]*



**BEND DETAIL**

R0.125

*29162*

### **D3065-3 STEP SPACER**

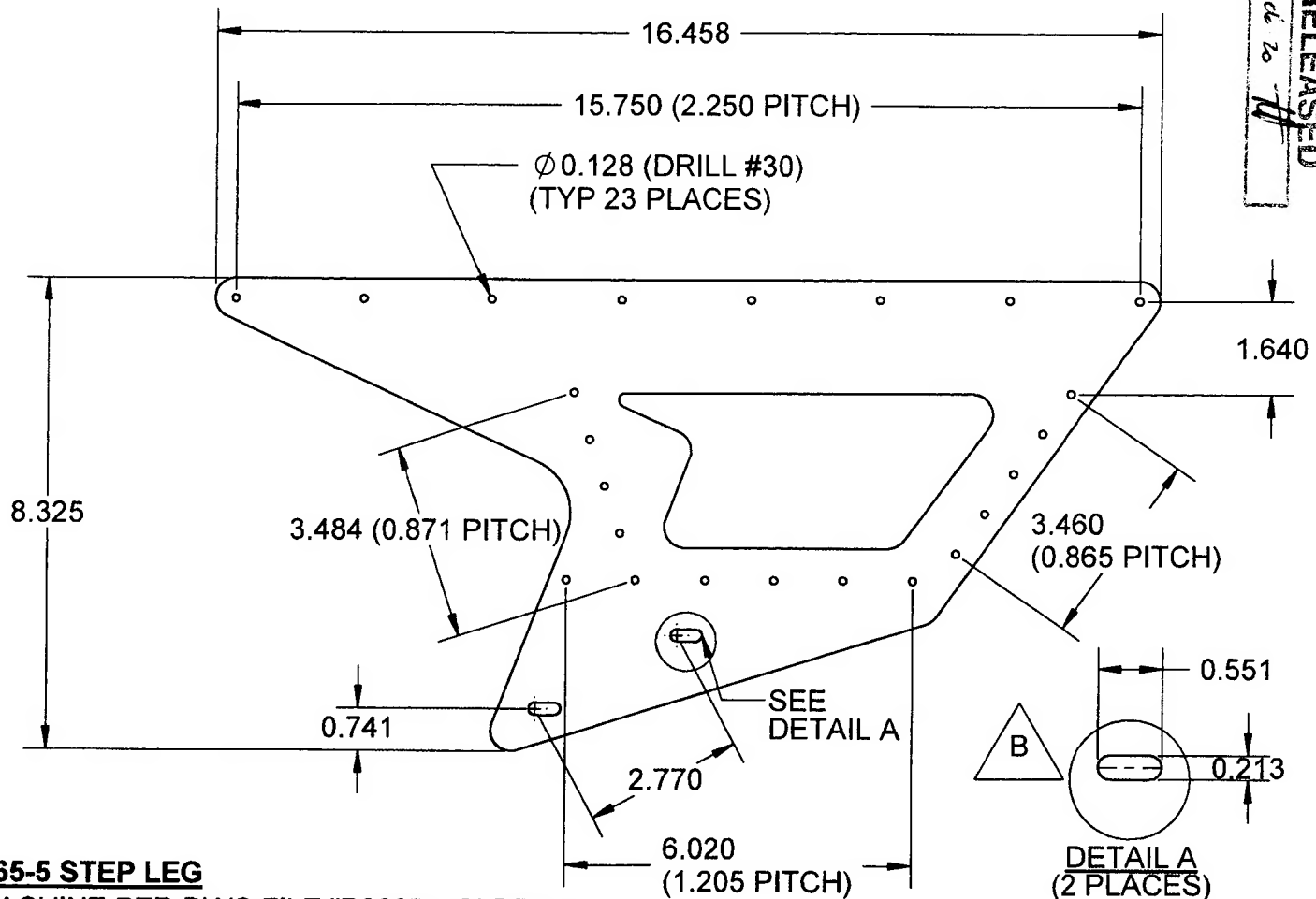
- 1) MATERIAL: 2024-T3 (QQ-A-250/4)  
0.040 THICK (REF DART SPEC. M2024T3S.040)
- 2) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 3) PART IS SYMMETRIC ABOUT CENTERLINE
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

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DESIGN	DRAWN BY	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. B
BT	BT	D3065	SHEET 4 OF 5
DATE	TITLE		SCALE
06.05.23	STEP LEG ASSEMBLY		1:3



## **D3065-5 STEP LEG**

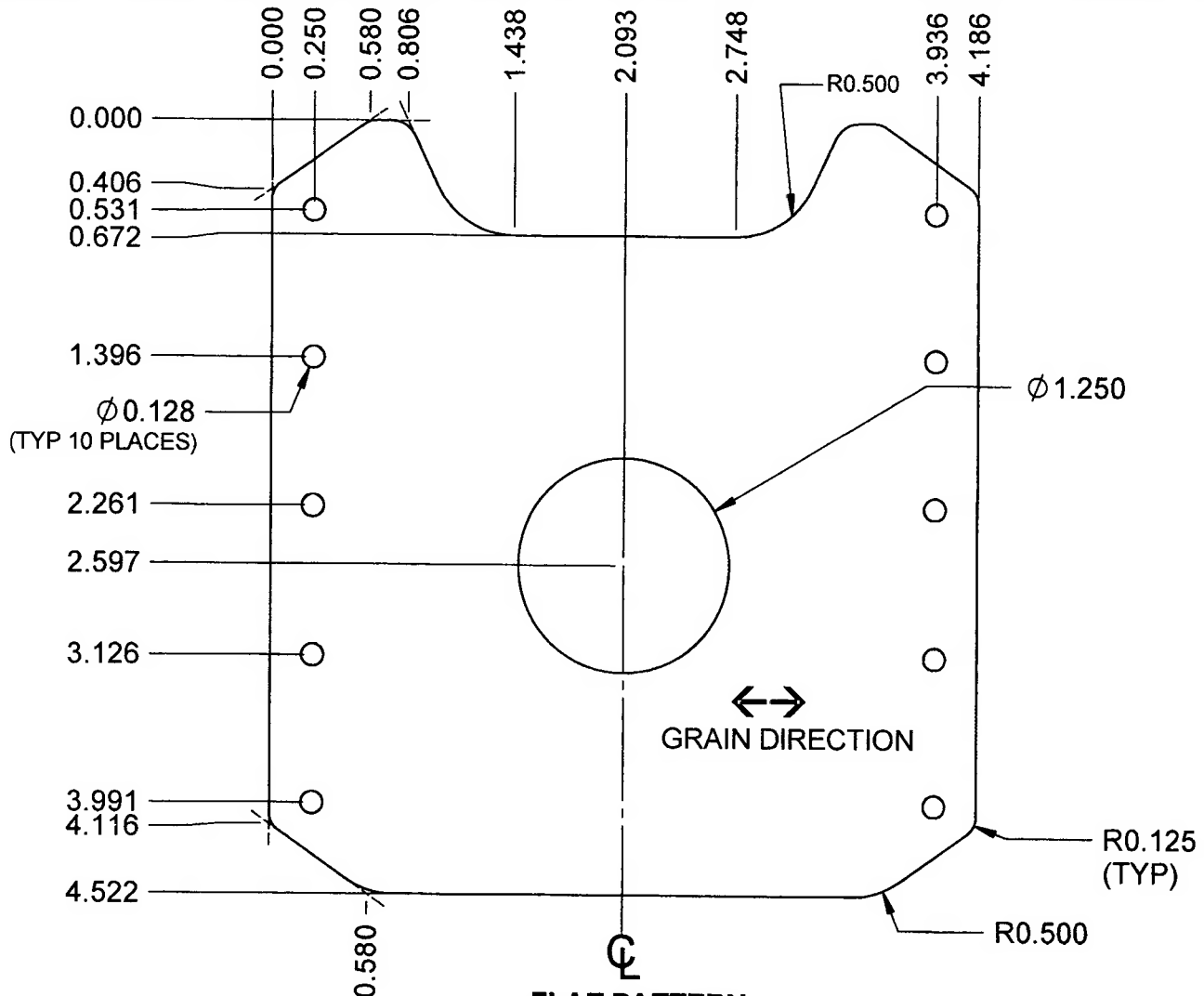
- 1) MACHINE PER DWG FILE "D3065-5.SLDPRT" (PLEASE SEE ATTACHED FILE)  
2) MATERIAL: 6061-T6 (PER QQ-A-250/11 OR AMS 4025 OR AMS 4027) 0.080" THICK  
(REF DART SPEC M6061T6S.080)  
OR  
5052-H32 (PER QQ-A-250/8 OR AMS 4016) 0.080 THICK (REF DART SPEC. M5052H32S.080)  
3) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1  
4) BREAK ALL SHARP EDGES 0.005 TO 0.010  
5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED  
6) ALL DIMENSIONS ARE IN INCHES

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DESIGN <i>CP</i>	DRAWN BY <i>CB</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. <b>D3065</b>	REV. B SHEET 5 OF 5
DATE <b>06.05.23</b>		TITLE <b>STEP LEG ASSEMBLY</b>	SCALE 1:1

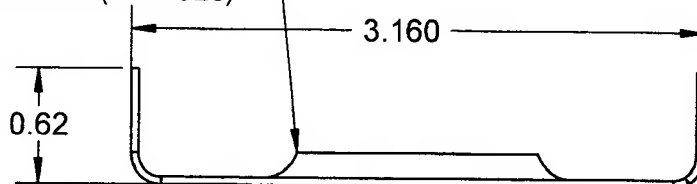


FLANGE AFTER BENDING TOWARDS  
SIDE SHOWN USING DT8174 (2 PLACES)

**FLAT PATTERN**

**RELEASED**

*06 06 20*



**BEND DETAIL**

R0.125 (TYP)

**D3065-7 STEP SPACER**

- 1) MATERIAL: 2024-T3 (PER QQ-A-250/4) 0.040 THICK (REF DART SPEC. M2024T3S.040)
- 2) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 3) PART IS SYMMETRIC ABOUT CENTERLINE
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

*05462*

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